SMEG
Ultrasonic Cleaner

USER MANUAL

1. Safety warnings

Carefully read the safety warnings before you operate the unit.

	The present ultrasonic cleaning unit has been designed for the ultrasonic treatment of **items** and **liquids** only.
	The unit must be operated by instructed staff; observe and follow the operating instructions.
	Risk of electrocution! Connect the unit to a grounded shock-proof socket only! Do not open the unit! Opening of the unit by specialized staff only! For operation place the unit on a dry and stable work place! Do not immerse or rinse the unit with water! Pull the mains plug in case of any malfunctions, if humidity might have entered the unit inside, for maintenance purposes and after use.
	Risk of fire and explosion! Do not operate the unit with flammable cleaning media!
	Risk of damage to the transducer tank! Do not put any acids (HCl, etc) or chlorides into the stainless-steel tank! Do not place any items directly on the tank floor!
	Risk of burning and scalding! Tank, housing and cleaning liquid can heat up considerably, particularly if operated with heating! In permanent operating mode temperatures exceeding 80 ℃ can be reached.
	Avoid sound transmission to the operating staff! Do not reach inside the cleaning liquid or touch sound-carrying parts (tank, basket, cleaning items, etc.) during operation.
	Noise emission! Ultrasonic units can produce annoying sounds. Wear personal ear protection devices when working close to an ultrasonic unit which is operated without cover. Emission data for operation with cover: < 70dBAU.
§	**Exclusion of liability:** The manufacturer cannot be held liable for damages on persons, equipment or cleaning items caused by improper use and non-observance of the Operating Instructions. The operator is responsible for the instruction of the operating staff. For any queries please contact your supplier or the manufacturer.

2. Product features

- Transducer tank made of cavitation-proof stainless steel.
- Housing made of stainless steel, easy to keep hygienically clean.
- Sandwich performance transducer systems.
- Sweep function for the perfect sound field distribution in the cleaning liquid.
- Degas function for the efficient degassing of the cleaning liquid and for special laboratory applications.
- Auto-Degas function for an automatic degassing cycle, e.g. after freshly mixed cleaning liquid has been filled.
- Quick drain on the unit back.
- Heating, safe to run dry*.
- Temperature-controlled ultrasound*: Cleaning process starts automatically when preset temperature is reached. The cleaning liquid is stirred regularly during heating up allowing a uniform temperature in the bath.
- Mains cable, pluggable .
- Electronic turning knobs.
- Indication of remaining cleaning time via diodes.
- Splashwater-proof operating panel.
- Plastic carrying handles.
- Automatic switch-off after 12 h operation (if no keys have been activated in this period) to prevent unintended permanent operation.
- Boost function for a power increase of the ultrasound by approx. 25 %.

* on units with heating

3. Delivery volume

SMEG VU Ultrasonic cleaning unit ■ Mains cable ■ Drain tube socket ■ Operating Instructions

4. Technical Details

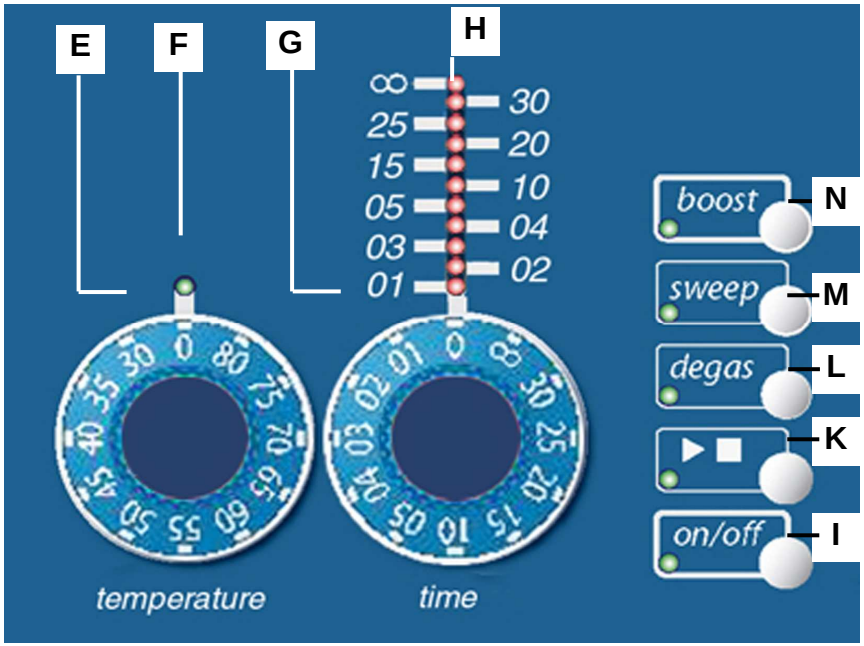
	Max. tank volume (approx. litre)	Tank service volume (approx. Litre)	Tank internal dimensions W x D x H (approx. mm)	Unit external dimensions W x D x H (approx. mm)	Basket internal dimensions W x D x H (approx. mm)	Weight (approx. kg)
VU03H	2,75	1,9	240x137x100	300x179x214	198x106x50	3,3
VU06H	5,75	4,3	300x151x150	365x186x264	255x115x75	5,1
VU13H	12,20	9,0	310x225x175	423x274x300	285x190x80	8,0
VU30H	28,00	20,6	505x300x200	568x340x321	455x250x115	11,0
VU45H	45,00	35,0	500x300x300	615x370x467	455x270x194	25,0
VU90H	90,00	75,0	600x500x300	715x570x467	545x450x250	42,0

	Mains voltage variants (Vac)	Ultrasonic frequency (kHz)	Power consumption total (W)	Ultrasonic power effective (W)	Ultrasonic peak max. (W)	Heating power (W)
VU03H	100-120 220-240	38	280	80	320	200
VU06H	100-120 220-240	38	550	150	600	400
VU13H	100-120 220-240	38	1500	300	1200	800
VU30H	100-120 220-240	38	1500	300	1200	1200
VU45H	200-240	38	2000	400	1600	1600
VU90H	200-240	38	2800	800	3200	2000

5. CE Konformität

SMEG Ultrasonic cleaning units are in compliance with the CE marking criteria according to the EMC directive 89/336/EEC, and the low voltage directive 73/23/EEC. The declaration of conformity is available from the manufacturer.

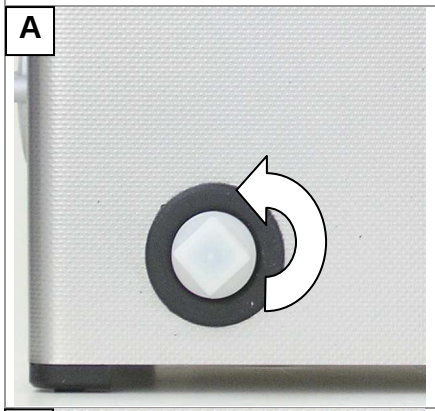
6. Unit description



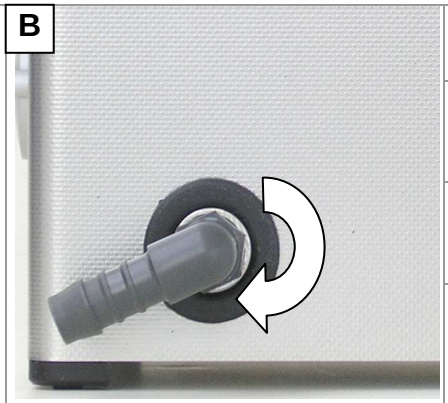
A	Operating panel for controlling the unit functions
B	Transducer tank – marking on the tank wall indicating the optimum filling level
C	Plastic carrying handles for the safe transportation of the unit
D	Turning knob liquid drain Position D1 drain shut, position D2 drain open
E	Turning knob temperature [1)] Temperature range 30°– 80℃, variable in 5 ℃ step s
F	LED indicator temperature [1)] red during heating up, green when set temperature is reached or exceeded
G	Turning knob cleaning time. Possible settings: short-term operation: 1; 2; 3; 4; 5; 10; 15; 20; 25; 30 min.; permanent operation ∞ for continuous operation. The unit switches off automatically after 12 hours permanent operation.
H	LED indicator for remaining cleaning time
I	*on/off* key for switching the unit on and off *on/off* LED
K	Key for ultrasonic operation and temperature-controlled ultrasonic operation Ultraschall LED.
L	Key for Degas function (manual and Auto-Degas – for the efficient degassing of the cleaning liquid)
M	Key for Sweep function for the perfect sound field distribution in the cleaning liquid. Sweep LED
N	Key for Boost function for an additional increase of the ultrasonic power by approx. 25%. Boost LED
	[1)] on units with heating

7. Initial operation / Putting into operation

A



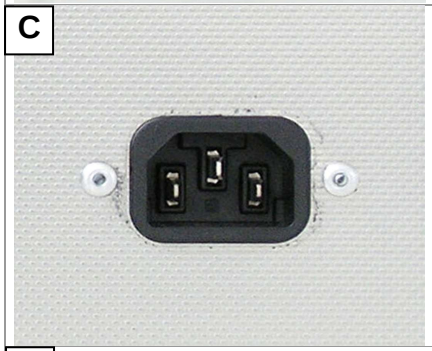
B



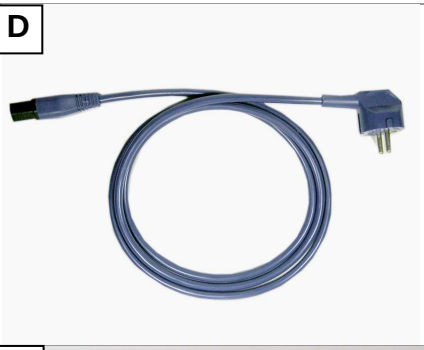
7.1. How to mount the drain duct tube socket

1. Unscrew the closing plug (A); turn anti-clockwise.
2. Screw on the tube socket (B) clockwise (included in delivery volume).
3. Connect ½“ tube of required length (not included in delivery volume). Fasten the tube with hose clip (included in delivery volume).

C



D



7.2. How to connect the unit to the mains

Connect mains input socket (C) to a grounded shock-proof socket with the mains cable (included in delivery volume) (D). The mains voltage must correspond with the voltage indicated on the nameplate of the unit.

E

F

7.3. How to fill the transducer tank

1. Fill the transducer tank up to 2/3 or up to the marking on the tank wall with water (E).
   Caution: Do not use any solvents or acids!
2. Add a suitable cleaning chemical; for the concentration follow the instructions on the label.
   Recommended cleaners: SMEG Cleaning detergents (F).

8. Operation		
Intended action	**What to do**	**Result**
Gerät einschalten / Gerät ausschalten	Taste *on/off* **(I)** drücken	Unit is ready for operation / unit is switched off
Start ultrasound - now -	Set required cleaning time at turning knob for cleaning time **(G)**. Press ►■ key for ultrasonic operation **(K)**	Ultrasound starts operating
Switch on ultrasound – temperature-controlled* with revolution of cleaning liquid – (only possible on units with heating as long as the set temperature > actual temperature).	Set required cleaning time at turning kob for cleaning time **(G).** Set required temperature at turning knob for cleaning temperature **(E)**. Keep ►■ key **(K)** pressed (> 2 sec.)	Heating starts operating. Ultrasound is switched on in intervals (automatic revolution of the liquid). As soon as the set temperature is reached the ultrasonic operation is automatically started. Set cleaning time starts running.
Stop ultrasonic operation by hand	Turn knob for cleaning time **(G)** to „0“ or press ►■ key **(K).**	Ultrasound stops
Switch on heating [1)]	Set required temperature **(E).**	Heating starts operating.
Switch off heating by hand [1)]	Turn set temperature **(E)** to „0“ position.	Heating stops.
Switch on Sweep function [2)]	Set required cleaning time **(G)** Press ►■ key **(K)** Press *sweep* key **(M)**	Ultrasound starts operating in sweep mode
Switch off Sweep function	Press *sweep* key **(M)**	Sweep function stops. Ultrasound continues operation in standard operating mode.
Switch on Degas function [2)]	Set required cleaning time **(G)** Press ►■ key **(K)** Press *degas* key **(L)**	Ultrasound operates in degas mode.
Switch off Degas funcion	Press *degas* key **(L)**	Degas function stops. Ultrasound continues in standard operating mode.
Switch on Auto-Degas function	Keep *degas* key **(L)** pressed (> 2 sec.)	Ultrasound operates in Auto-Degas mode for 10 minutes and then switches off automatically.
Switch on Boost function [2)]	Set required cleaning time **(G)** Press ►■ key **(K)** Keep *boost* key **(N)**	Ultrasound operates in boost mode.
Switch off Boost function	Press *boost* key **(N)**	Ultrasound continues operation in standard mode
[1)] on units with heating [2)] Sweep, Degas, Boost cannot be operated at the same time		

9. Cleaning process	
	Observe the general safety warnings. The operator is responsible for the control of the cleaning result. Take the warming of the cleaning liquid into consideration when cleaning temperature-sensitive items. Ultrasound can damage sensitive surfaces when operated over a prolonged period of time and particularly when operated at low cleaning frequencies.
1.	If necessary for the cleaning task at hand, pre-heat the liquid (in units with heating).
2.	When the cleaning liquid has been freshly mixed switch on the Degas / Auto-Degas function for degassing the liquid (approx. 10 min).
3.	Immerse the cleaning items into the cleaning liquid. Do not place any items or containers directly onto the tank floor. Use either a cleaning basket, a beaker (filled with water + cleaning chemical) or hang the items into the liquid.
4.	Set the cleaning time – switch on the ultrasound.
5.	If required switch on the sweep function (for the intensive cleaning of large items and for robust surfaces).
6.	Monitor the cleaning process: Check the cleaning result by visual inspection. Repeat the cleaning process if necessary.
7.	Rinse the cleaned items after the cleaning and dry if necessary.

10. Maintenance / Care / Repair	
	Caution! Pull the mains plug before you carry out any maintenance and care works! Do not put the unit under water! For repair return the unit to your supplier or to the manufacturer.
■	**Electrical safety**: Regularly check the housing and the mains cable for damage to avoid electrical accidents.
■	**Care of transducer tank**: Lime deposits in the stainless-steel tank can be removed gently by an appropriate cleaning detergent (operate the unit with water + concentrate). Do not use any scouring media!
■	**Care of housing**: Depending on their kind, contaminations can be removed with a mild household cleaner or decalcifier (wipe with wet cloth).
■	**Disinfection**: If the unit is operated in the medical and sanitary sector it is necessary to disinfect the transducer tank and the surfaces regularly for hygienic purposes (standard surface disinfectants).

11. Putting out of operation and waste disposal

The unit and its components can be taken to metal and electronics recycling stations or returned to the manufacturer.

12. Manufacturer's contact address

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42016 Guastalla (RE) – Italy
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instruments@smeg.it
www.smeg-instruments.com

For any queries concerning the unit, its operation or the Operating Instructions please contact the manufacturer.
We will be glad to assist.

Subject to technical or visual modifications

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